

Eucalyptus broviniensis (Myrtaceae), a new critically endangered species from south-eastern Queensland

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Summary

Bean, A.R. (2001). *Eucalyptus broviniensis* (Myrtaceae), a new critically endangered species from south-eastern Queensland. *Austrobaileya* 6 (1): 117–119. *E. broviniensis*, a new gum-barked species is described, illustrated and diagnosed against the closely related *E. hallii* Brooker. The new species is confined to a very small area near Mundubbera in south-east Queensland, and its conservation status is assessed as 'critically endangered'.

Keywords: *Eucalyptus*, Myrtaceae, taxonomy, *Eucalyptus broviniensis*, Queensland flora.

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Introduction

Brooker (1975) described *Eucalyptus hallii*, a restricted but common eucalypt of the sandy coastal lowlands between Maryborough and Bundaberg in southern Queensland. A recently discovered, very rare, gum-barked eucalypt is named here as *Eucalyptus broviniensis*. While it grows in a vastly different habitat and is geographically disjunct, it is clearly a very close relative of *E. hallii*.

Taxonomy

Eucalyptus broviniensis A.R.Bean sp. nov.

affinis *E. hallii* autem fructibus grandioribus, foliis adultis 2.5–4.5 cm latis, glandulis oleosis paucioribus praeditis, et pedunculis longioribus differt. **Typus:** Queensland. BURNETT DISTRICT: 10 km ESE of Brovinia, S.F. 132, S of Mundubbera, 7 April 1997, A.R. Bean 11911 (holo: BRI; iso: CANB).

Small tree to 10 metres high, lignotuberous. Bark deciduous, dull, granular, mottled light and dark grey. Juvenile leaves alternate, ovate, c. 10 × 5 cm, petiolate. Intermediate leaves similar to adult leaves. Adult leaves lanceolate, 10–14.5 × 2.5–4.5 cm, alternate, leathery, concolorous, dull; penninerved, lateral veins at 40–60° to the midrib; reticulation dense, with sparse small island oil glands, one per areole

or absent from some areoles; petioles 20–30 mm long. Inflorescences axillary, unbranched, 7-flowered; peduncles thick, more or less terete, 8–22 mm long. Mature buds ovoid, 6–9 mm long, 4.5–6.5 mm in diameter, sessile or with pedicels up to 2 mm long. Hypanthium with 1–3 prominent longitudinal ribs; operculum scar present; inner operculum hemispherical, smooth, thick; stamens c. 4.5 mm long, white, mostly inflexed but with a few erect, all fertile, in 3 or 4 whorls on narrow staminophore. Anthers oblong, versatile, dorsifixed, opening in longitudinal slits. Style terete, with broad conical base, stigma blunt. Ovary 3 or 4 locular, ovules in 6–8 indistinct vertical rows. Fruits obconical, 5.5–8.5 mm long, 7–11 mm in diameter, disc annular, valves 3 or 4, exserted. Seeds ellipsoidal to cuboid, 0.75–1 mm long, not toothed, surface faintly reticulate, hilum terminal. Chaff pale brown to yellow, mostly cuneate. Fig. 1.

Specimens examined: Queensland. BURNETT DISTRICT: Brovinia S.F., S of Mundubbera, Dec 1998, Bean 14439 (AD, BRI, NSW); S.F. 132, 10 km ESE of Brovinia, Nov 1997, Bean 12581 (BRI).

Distribution and habitat: *E. broviniensis* is confined to a small area within Brovinia State Forest south of Mundubbera. It grows on the edges of a lateritised plateau, in heathy eucalypt woodland with *Eucalyptus exserta* F.Muell., *E. cloeziana* F. Muell., *E. virens* Brooker & Bean and *Triodia scariosa* N.T.Burb.

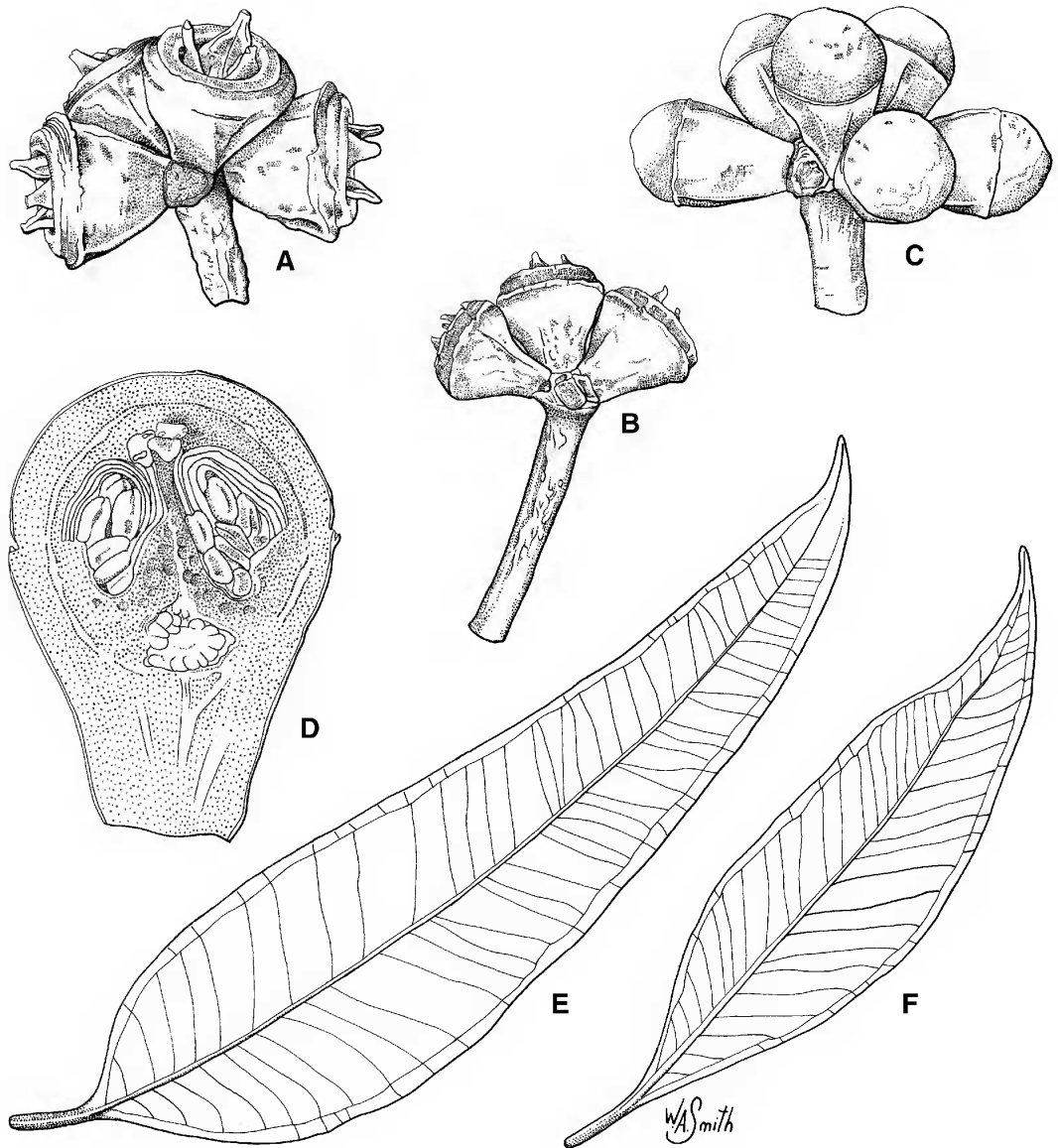


Fig. 1. *Eucalyptus broviniensis*. A, fruits $\times 2$. B, fruits $\times 2$. C, buds $\times 2$. D, longitudinal section of bud, showing ovules, style and stamens $\times 8$. E, adult leaf $\times 1$. F, intermediate leaf $\times 1$. A–C, E, *Bean* 11911; B, F, *Bean* 12581; D, *Bean* 14439 (all BRI). Del. W. Smith.

Phenology: Flowers in summer.

Affinities: *E. broviniensis* is most closely related to *E. hallii*, and the main differences are detailed in the following table. Both species have dull deciduous bark which is off-white to grey for much of the year, shedding to bright orange in summer. This bark type is virtually identical in texture, colour and pattern to that of the related species *E. bancroftii* (Maiden) Maiden and the less closely related species

Etymology: The specific epithet refers to the Brovina State Forest where the species is endemic.

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	<i>E. broviniensis</i>	<i>E. hallii</i>
Adult leaf width	2.5–4.5 cm	1.5–3 cm
Oil gland density (adult lvs)	sparse	moderately dense
Peduncle length	8–22 mm	4–8mm
Fruit diameter	7–11 mm	5–7 mm

E. propinqua H.Deane & Maiden and *E. major* (Maiden) Blakely.

The classification of *E. hallii* within *Eucalyptus* has been somewhat difficult. It was placed in *E. ser. Subexsertae* Blakely (Chippendale 1988), and in informal *E. ser. Albae* of Brooker & Kleinig (1994). However it differs significantly from all other members of these series by its dull, thick, granular bark, which is bright orange when newly exposed following decortication. Brooker (2000) created a monotypic series (*E. ser. Connexentes*) for *E. hallii*, hence recognizing its distinctive suite of characters. The present author agrees with the removal of *E. hallii* (with *E. broviniensis*) to a separate series, but recommends their placement under *E. sect. Liberivalvae* (Blakely) Brooker. *E. ser. Connexentes* has many features in common with *E. sect. Liberivalvae* e.g. bark type, leaf venation, leaf oil glands, fruit morphology; but differs mainly in seed morphology and operculum shape.

Conservation status: *E. broviniensis* is known from only about 20 individuals at the type locality. It is under threat from increased fire frequency. In recent years, fires have destroyed a number of mature stems. Applying IUCN guidelines (Anon. 1994), a category of 'critically endangered' is proposed (Criteria B1, B2, C2, D).

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